# Daniel Martí Casanova

## Game programmer

**Portfolio:** damacaa.github.io

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Passionate game developer with 2+ years of experience working on various small projects.

Experienced programmer in different disciplines related to video games and simulation. Self-motivated, with a good track record of working well with others, and an avid learner. Spanish and Catalan native speaker and proficient in English (C1).

## SKILLS

- **Programming languages:** C++, C#, Python, JavaScript.
- **Software:** Unity, Unreal Engine (Blueprints), Visual Studio, Blender, 3ds Max, Photoshop.
- **Physics programming:** collisions, rigid body and soft body dynamics, spatial partition.
- **Gameplay programming:** implementing gameplay systems and logic, including player controllers, puzzle mechanics, and combat systems.
- **Miscellaneous:** Git, huge interest in design patterns, SOLID, SQL, very basic knowledge of GLSL, OpenGL, and CUDA.
- **Other:** Agile methodologies, UML, Trello, great communication skills, proven artistic skills (proportion, color, composition...).

## EDUCATION

**Rey Juan Carlos University, Madrid -** Bachelor's Degree in Video Game design and development

SEPTEMBER 2018 - NOVEMBER 2022

Obtained multiple distinctions in subjects about OOP in C++ and Javascript, 3D physics simulation in C# with Unity, and multiplayer web games with Javascript and Java.

*Thesis: Framework for inverse animation editing based on differentiable simulation.*

## EXPERIENCE

**Rey Juan Carlos University, Madrid -** *Physics Research Assistant*

OCTOBER 2021 - AUGUST 2022

- Successfully developed a proof of concept for a state-of-the-art method of parameter optimization for 3D cloth simulations.
- Developed an efficient differentiable physics simulation engine in C++ intended for different game engines such as Unity or Unreal.

**Personal projects**

SEPTEMBER 2018 - PRESENT

- Worked as part of a team on various academic projects and work-related activities.
- Proven ability to work as an artist, game designer, and programmer.
- Competed in various game jams, always delivering exceptional products before the deadlines.
- Some examples are:
    - **Ruins of Light (2020):** Built an online multiplayer game for browsers, both the client in Javascript and the server in Java. Implemented all the main mechanics and designed some of the characters.
    - **Pond Platoon (2021):** Created procedurally generated worlds for a 3D tower defense game and implemented the enemies' AI to navigate them in Unity.
    - **Framework for inverse animation editing based on differentiable simulation (2022):** Implemented a physics engine in C++ and used numerical optimization to estimate simulation parameters with Python to then display the resulting simulation in Unity.